State of California
DEPARTMENT OF COMMUNITY SERVICES AND DEVELOPMENT
CSD 700C (Rev. 08/25/11)

COMBUSTION APPLIANCE SAFETY INSPECTION FORM (CASIF)
POST-REPAIR/REPLACEMENT SAFETY CHECKS

Client: _____ Date R/R Completed: _____

Contact attempts: (1)_____, (2)_____, (3)_____

If over 5 days to test, reason: _____

Instructions for Post-Repair/Replacement Safety Checks **(Also see Field Policy Preface for WIS Sec. 3.)**

(a) The same day Repair/Replacement is finish, if feasible, and no later than 5 calendar days afterward, each Repaired or Replaced appliance shall get minimum safety checks using this form, which must be properly completed and attached to a regular CASIF (or to CASIF page 1, if an ECIP job). If over 5 days needed to test, document reason & attempts on page 1.

(b) When Repair/Replacement occurs before Post-CAS CAS Testing, Post-Repair/Replacement Safety Checks are in addition to *Pre*-Wx CAS Tests. Plus, if *Post*-Wx CAS Testing is feasible, the R/R appliance is included in those tests.

(c) When Appliance Repair/Replacement occurs after Wx and Post-Wx CAS Testing, Post-R/R Safety Checks are in addition to Post-Wx CAS Tests for that appliance, and the completed Post-R/R Form is attached to the CASIF.

(d) If Post-Repair/Replacement Safety Checks reveal a CAS Fail for the Repaired/Replaced appliance, correction shall be made, and re-checks shall be performed, following procedures described in (a) above.

(e) For ECIP jobs with no weatherization, complete page 1 of the regular CASIF, and attach this completed form to it.

► CVA Check for SPACE and WATER Heaters (Use additional pg. 1 if both G-9 & I-9 are needed and are different.)

CVA checked for: ☐ Space Heater (G-9), ☐ Water Heater (I-9), ☐ Both together	Checking CVA? Y N NA	**Added CVA**
G/I-9 Btu/hr input ratings of Open Combustion Furnace and Water Heater in this room or space (see Z-6 for Default Btu): _____ + _____ + _____ = → Calculate minimum CVA requirement (see Y-1). Use the appropriate line **(a) – (d)** below for Vent Size or Room Volume.	☐ CVA is NA (Closed Comb./DV) Total: _____ Btu/hr **Input**	☐ CVA was added, and *new total* NFVA or Room Volume is shown below. ↓
(a) _____ (# Thousand Btu/hr) ÷ **4** = _____ **sq. in.** NFVA *required* for *each* of **2 vents** *outdoors* (1 Upper & 1 Lower).	**(a)** *Existing* vents NFVA Upper: _____ sq. in. Lower: _____ sq. in.	**(a)** New Total NFVA: Upper:_____ sq. in. Lower:_____ sq. in.
(b) _____ (# Thousand Btu/hr) ÷ **3** = _____ **sq. in.** NFVA *required* for **1 vent** *outdoors* (Upper only).	**(b)** *Existing* Upper: _____ sq. in. *Existing* Lower: _____ sq. in.	**(b)** New Total NFVA: Upper:_____ sq. in.
(c) _____ (# Thousand Btu/hr) **x 50** = _____ **cu. ft.**, the *required* minimum **Room Volume** (if inadequate, use **(d)** below).	**(c)** *Existing* Room volume: _____ cu. ft.	**(c)** New Total Room Volume:_____ cu. ft.
(d) ☐ Vents installed, ☐ Solid door replaced by Louvered, ☐ Solid door removed _____ (# Thousand Btu/hr) ÷ **1** = _____ **sq. in.** NFVA *required* for *each* of **2 vents** *indoors* **(min. 100 sq. in. NFVA each)**.	**(d)** *Existing* vents NFVA Upper: _____ sq. in. Lower: _____ sq. in.	**(d)** New Total NFVA: Upper:_____ sq. in. Lower:_____ sq. in.
• Is CVA OK? • Are any CVA vents obstructed? (See Z-2.)	Is CVA OK? Y **N** NA	Y **N** NA

(F) AMBIENT CO MEASUREMENTS—GAS HOME HEATING SYSTEM Repair/Replacement

Ambient CO must be checked when a Gas Home Heating Appliance is Repaired/Replaced.		**Post-Repair/Replace Test**
F-1	**(a)** Set Conditions for ***Initial*** Living Space Ambient CO Test. **(b)** Zero CO Tester outdoors ("outdoor" reading). **(c)** Draw an air sample indoors. **(d)** Record the *difference* between "outdoor" and *this* indoor CO reading (appliances & fans off).	Test Conditions set? Y Outdoor Reading: _____ ppm ***Initial*** Living Space Ambient CO: _____ ppm
F-2	Check Furnaces and Space Heaters for gas leaks prior to operating (see Z-1).	Gas leaks? **Y** N NA U
F-3	**(a)** Operate all **Furnaces & Heaters** for 5 minutes (with all other combustion appliances and exhaust devices still off), and all doors and windows unchanged. **(b)** Draw a second air sample from the same indoor location (step F-1c). **(c)** Record *difference* between this reading and the "outdoor" reading as the "***Second*** Living Space Ambient CO".	Furnaces & Space Heaters operating? Y **N** ***Second*** Living Space Ambient CO: _____ ppm

F-4	Immediately following step F-3 (with all Furnaces/Heaters operating, fans still off, doors/windows unchanged), *check for Appliance Ambient CO for each Furnace/Heater* (see Appendix B, Step 4.3). **A. [FAU]** Check for CO in register nearest the Furnace. **B. [Wall, Floor, other non-ducted]** Check for CO just above the heat exchanger. If CO is **more than 2 ppm above** *Second* Living Space Ambient, corrective action is required. (See Z-1 and WIS Item 20)	(Show CO for each Furnace/Heater.) **Appliance** Ambient CO: _____ ppm, _____ ppm _____ ppm, _____ ppm Is *Appliance* Ambient CO **over 2 ppm higher** than Second *Living Space* Ambient CO? **Y** N

Circle answers in columns to the right: Y = Yes, N = No, NA = Not Applicable, U = Unverifiable. NF = Not Feasible. For Post-Wx Test, recheck all items with answers in "Post-Wx Test" column.		**Post-Repair/Replace Test**
(G) GAS HOME HEATING SYSTEM	☐ **Repaired,** ☐ **Replaced***	Location: NA U
***Type & Btu Input of Heater: (a) Removed:_____, (b) Installed:_____**		
G-1	Check for gas leaks (see Z-3). [If leaks, STOP! See Z-1.]	Leaks? (Step F-2) **Y** N
G-2	**Establish *Appliance* CAS Test conditions** (WIS Sec. 3, Item 22).	Conditions set? Y **N**
G-8	Hole drilled for Draft Test (see X-8)? If not done, check reason: ☐ No feasible location, ☐ Asbestos pipe, ☐ Double-wall pipe, ☐ Closed Combustion	Test hole? Y N NA U Induced Draft: ☐ Not needed for CO
G-9	Is CVA adequate? ☐ CVA is NA (Closed Combustion/DV)	Is CVA OK? Y **N** NA
G-12	FAU only: Any Return leaks drawing air from an Open Combustion appliance room/enclosure? [Z-2.]	Return leaks? **Y** N NA U
G-14	Does Flue/Vent System (see Z-4) show evidence of *Immediate Service Required* or Required Repairs (see Z-1 or Z-2).	Flue/Vent defects? **Y** N NA U
G-15	Are there any other missing/defective items (e.g., appliance door, Combustion Chamber door, Roll-out Shield)? (See Z-2.)	Any other defects? **Y** N U
G-16	To conduct CAS tests, turn on exhaust devices (X-4.3) and commonly-vented appliances (per X-3). • Turn on Furnace or Heater. • Check for Delayed Ignition and Roll-out (see Z-5).	Exhaust devices on? Y NA Delayed Ignition? **Y** N U Roll-out Ignition? **Y** N NA U
G-17	Observe burner flame pattern and color. Record Large Yellow flame, Soft Lazy flame, Smothering flame, etc. (see Z-5.1.). • Other:	Large Yellow flame? **Y** N U Soft Lazy flame? **Y** N U Other problems? **Y** N U
G-18	FAU only: When blower comes on, does flame pattern or color change? [If Yes, see Z-5.1.]	Flame interference? **Y** N NA U
G-19	Reinstall all access covers removed for inspection.	Covers reinstalled? Y NA
G-20	Open Door Tests: After 5 minutes of burner operation, check listed items with room door open. • Run longer and retest if first CO is high. • If Flue Gas CO is NF, write in Appliance *Ambient CO* instead. ☐ Can't use Draft Gauge, doing "Smoke Test" (per Y-2.2.), writing in "Smoke" and circling "P" (Pass) or "F" (Fail). • Check for Spillage.→	Outdoor temperature: _____°F CO: ____, ____, ____, ____ ppm ☐ Appl. Ambient CO—Flue gas CO is NF Draft: –_____ iwc/Pa P **F** NA Spillage present? **Y** N NA
G-21	Closed Door Tests: If applicable, close door to appliance enclosure or space and repeat tests (see X-7). ☐ **Can't use Draft Gauge**, doing "Smoke Test" (per Y-2.2), and writing in "Smoke" and circling "P" (Pass) or "F" (Fail). → • Check for Spillage. →	Door Closed? Y NA CO: ____, ____, ____, ____ ppm ☐ Appl. Ambient CO—Flue gas CO is NF Draft: –_____ iwc/Pa P **F** NA Spillage present? **Y** N NA
G-23	If Draft Test hole was drilled, seal properly (see X-8.4 & WIS Item 23).	Test hole sealed? Y NA
G-24	Thermostat set to normal? • [FAU] Clean filter in place?	T'stat & Filter OK? Y N NA

Circle answers in columns to the right: Y = Yes, N = No, NA = Not Applicable, U = Unverifiable. NF = Not Feasible. For Post-Wx Test, recheck all items with answers in "Post-Wx Test" column.		**Post-Repair/Replace Test**
(I) GAS WATER HEATER	☐ **Repaired,** ☐ **Replaced***	NA
***Size & Btu Input of unit: (a) Removed:_____, (b) Installed:_____**		
I-1	Check for gas leaks (see Z-3). [If leaks, STOP! See Z-1.]	Gas leaks? **Y** N
I-2	**Establish *Appliance* CAS Test conditions** (WIS Sec. 3, Item 22).	Conditions set? Y **N**
I-6	Is Outer and/or Inner Combustion Chamber cover missing?	Missing: ☐ Inner, ☐ Outer, ☐ All OK

I-7	Mobile Home: Is floor sturdy & holding tank in a safe position?	Floor sturdy & safe? Y **N** NA
I-8	Hole drilled for Draft Test ? If not done, check reason: ☐ No feasible location, ☐ Asbestos pipe, ☐ Double-wall pipe, ☐ Closed Combustion	Test hole? Y N NA Induced Draft: ☐ Not needed for CO
I-9	Is CVA adequate? ☐ CVA is NA (Closed Combustion/DV)	Is CVA OK? Y **N** NA
I-11	Does Flue/Vent System (see Z-4) show evidence of *Immediate Service Required* or Required Repairs (see Z-1 or Z-2).	*(After ceiling insulation, recheck vent pipes* Flue/Vent defects? **Y** N NA U
I-12	Conduct CAS tests. (Turn on exhaust devices on (X-4.3) and commonly-vented appliances (X-3). • Mark T-stat and turn it up to turn on burner.) • Look for Delayed Ignition and Roll-out (see Z-5).	Exhaust devices on? Y NA Delayed Ignition? **Y** N U Roll-out Ignition? **Y** N NA U
I-13	Observe burner flame pattern and color. Record Large Yellow flame, Soft Lazy flame, Smothering flame, etc. (see Z-5.1). • Other:	Large yellow flame? **Y** N U Soft lazy flame? **Y** N U Other problems? **Y** N U
I-14	Reinstall all access covers removed for inspection.	Covers reinstalled? Y NA
I-15	Open Door Tests: After 5 minutes of burner operation, check listed items with room door open. • Run longer and retest if first CO is high. • If Flue Gas CO is NF, write in Appliance *Ambient* CO instead.] ☐ Can't use Draft Gauge, doing "Smoke Test" (per Y-2.2), writing in "Smoke" and circling "P" (Pass) or "F" (Fail). • Check for Spillage.→	Outdoor temperature: _____°F CO: ____, ____, ____, ____ ppm ☐ Appl. Ambient CO—Flue gas CO is NF Draft: –_____ iwc/Pa P **F** NA Spillage present? **Y** N NA
I-16	Closed Door Tests: If applicable, close door to appliance enclosure or space and repeat tests (see X-7). ☐ **Can't use Draft Gauge**, doing "Smoke Test" (per Y-2.2), and writing in "Smoke" and circling "P" (Pass) or "F" (Fail). → • Check for Spillage. →	Door Closed? Y NA CO: ____, ____, ____, ____ ppm ☐ Appl. Ambient CO—Flue gas CO is NF Draft: –_____ iwc/Pa P **F** NA Spillage present? **Y** N NA
I-17	If Draft Test hole was drilled, seal properly (see X-8.4 & WIS Item 23).	Test hole sealed? Y NA
I-18	Return Thermostat to original setting.	Thermostat reset? Y **N** NA

Circle answers in columns to the right: Y = Yes, N = No, NA = Not Applicable, U = Unverifiable. NF = Not Feasible. For Post-Wx Test, recheck all items with answers in "Post-Wx Test" column.	**Post-Repair/Replace Test**
(J) GAS COOK STOVE & OVEN/BROILER ☐ Repaired, ☐ Replaced*	NA
*Type & Btu Input of unit: (a) Removed:_____, (b) Installed:_____	
J-1 Check for gas leaks (see Z-3). [If leaks, STOP! See Z-1.]	Gas leaks? **Y** N
J-2 Is there a kitchen exhaust vent to outdoors?	Exhausts outdoors? Y N
J-3 Exhausts Outdoors: Is there a fan in the exhaust vent? • Does fan work satisfactorily? • Mobile Homes: See WIS Item 35 for exhaust requirement.	Fan present? Y N NA Fan works OK? Y **N** NA M/H exhaust OK? Y **N** NA
J-4 • Cooktop: With grates in place, light first burner on High for test. After 15-seconds, check CO with probe held horizontally approx. 12" above the flame (see X-9.2). • Test, turn off, light next burner and repeat. • If CO is high, clean grate or burn longer. • Griddle: Burn Griddle on high at least 5 minutes and test. →	Exhaust fans on? Y NA LR _____, RR _____ ppm CO LF _____, RF _____ ppm CO 5th Burner _____ ppm CO NA Griddle: _____ ppm CO NA
J-5 Oven & Broiler: Operate burners at least 5 minutes & sample CO in exhaust stream (see X-9.2.). ► If 1st CO reading is high, look for dirty Oven & covered vent holes, and run 15-30 minutes longer & retest. • Single-Burner Oven: Operate on highest Bake setting or on "Broil". Record CO ppm on "Oven #1" line. • Two-Burner Oven (with Broiler burner at top of Oven): (a) Run on highest Bake setting; record on "Oven #1" line. (b) Turn to "Broil", wait 1 minute, recheck CO, put on "Broiler #1" line. • Broiler separate from Oven: Operate on "Broil" 5 to 30 minutes and check CO. Record on "Broiler" line. • Convection Oven: Check CO in Convection mode (fan on) and then in standard mode (fan off), and record the higher reading.	Vented outdoors? **Y** N (X-9.2.c.) Is Oven/Broiler dirty? **Y** N Are vent holes in bottom covered by foil? **Y** N NA Oven #1: _____ ppm CO Broiler #1: _____ ppm CO Oven #2: _____ ppm CO Broiler #2: _____ ppm CO